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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/696,779	10/26/2000	Xuemei Zhang	10992590-1	4746

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EXAMINER

YE, LIN

ART UNIT PAPER NUMBER

2612

DATE MAILED: 03/12/2004

3

Please find below and/or attached an Office communication concerning this application or proceeding.

PM

**Office Action Summary**

Application No. 09/696,779	Applicant(s) ZHANG ET AL.	
Examiner Lin Ye	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 October 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 9-14 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. U.S. Patent 4,842,411 in view of Oie et al. U.S. Patent 6,188,431.

Referring to claim 1, the Wood reference discloses in Figure 1, a stereo image capture system, comprising: a first digital camera (CCD array 4) for capturing a first image and including a first optical axis (11) and a first data port (the port for digitizer 21 output data via lead 24); a second digital camera (CCD 7) for capturing a second image and including a second optical axis (12) and a second data port (the port for digitizer 22 output data via lead 26); between the cameras, the first and second digital cameras are adapted to be linked (by parallax processor 23) with each other so that the first and second optical axes (11 and 12) are coplanar and parallel to each other and are separated by a predetermined distance (B), and wherein when the cameras are linked, the cameras are adapted to capture a stereo image by capturing the first and second images (See col. 3, lines 50-67 and Col. 4, lines 1-15).

However, the reference does not explicitly shows the first and second data ports are adapted to intercommunicate data including the first and second images.

The Oie reference discloses in Figures 2-3 and 5-8, a first digital camera (1a) and second digital camera are linked by a first data port (port 45 of 1a) and a second port (port 45 of 1b); and the first and second data ports are adapted to intercommunicate data including the first and second images as shown in Figure 5 (see Col. 4, lines 42-61). The Oie reference is evidence that one of ordinary skill in the art at the time to see more advantages the two camera are adapted to directly intercommunicate image data with each other without using external equipment such as personal computer or other electric processor so that data communication can be simple and efficient. For that reason, it would have been obvious to the stereo image capture system has the first and second data ports are adapted to intercommunicate data including the first and second images disclosed by Wood.

Referring to claim 2, the Oie reference discloses wherein the first digital camera (1a) and the second digital camera (1b) are linked by connecting (terminals 47) the first digital camera with the second digital camera.

Referring to claim 3, the Oie reference discloses wherein the data is intercommunicated between the first and second data ports (45) when the first digital camera (1a) is linked with the second digital camera (1b) (see Col. 4, lines 42-61).

Referring to claim 4, the Wood reference discloses a data port connector (parallax processor 23) for linking the cameras and for connecting the first data port (the port for digitizer 21 output data via lead 24) with the second data port (the port for digitizer 22 output data via lead 26).

Referring to claim 9, the Oie reference discloses wherein when the first (1a) and second digital cameras (1b) are linked the first and second data ports are in electrical intercommunication with each other (by cable 69; see Col. 4, lines 59-61).

Referring to claim 10-11, the Wood and Oie references disclose all subject matter as discussed in respected claim 9, except the reference does not explicitly state the data is electrically intercommunicated using a well accepted communication protocol is selected from the group consisting of a JETSEND protocol, an IEEE 1394 protocol, a FIREWIRE protocol, an USB protocol, IRDA (infrared) protocol, BLUTOOTH protocol, a RS-232 protocol, and RS-422 protocol. Office Notice is taken that both the concept and the advantages of the digital camera can select a well accepted communication protocol for data communication are well known and expected in the art (e.g., this is also admitted in applicant's specification which states "**most digital cameras** include a data port that communicates data using a well accepted communications protocol..." See specification page 12, lines 15-25). It would have been obvious that the digital stereo camera system has more flexible option to choice a well accepted communication protocol is selected from the group consisting of a JETSEND protocol, an IEEE 1394 protocol, a FIREWIRE protocol, an USB protocol, a RS-232 protocol, and RS-422 protocol disclosed by Wood and Oie.

Referring to claim 12, the Oie reference discloses wherein the first and second data ports are in wireless intercommunication (infrared rays) with each other when the first and second digital cameras are linked (See Col. 2, lines 25-27).

Referring to claims 13-14, the Wood and Oie references disclose all subject matter as discussed with respected to same comment as with claims 10-11.

Art Unit: 2612

Referring to claim 20, the Oie reference discloses in Figure 6, wherein one of the first and second digital cameras is selectable to be a master camera and the other one of the first and second digital cameras is a slave camera, and after the first and second images have been captured, the image captured by the slave camera is intercommunicated to the master camera so that the stereo image resides in the master camera (See Col. 6, lines 46-67 and Col. 7, lines 20-26).

Referring to claim 21, the Oie reference discloses wherein one or more identical functions on the slave camera including the capturing of the second image is controlled by the master camera (See col. 9 lines 19-22).

Referring to claim 22, the Oie reference discloses the positions of first port (45 of 1 a) and the second port (45 of 1b) are both on the right side cameras as shown in Figure 3. When user select link one digital camera to another via the infrared rays, in order intercommunication by infrared rays, it should no any obstruction between two ports. Inherently, either one of cameras will be flipped from a normal position to a linked position via the infrared rays.

Referring to claim 23, the Oie reference discloses the first port (45 of 1 a) and the second port (45 of 1b) are both identical (replicated) as shown in Figure 3. when user select link one digital camera to another via the RS232C cable, the digital cameras can be linked without having to flip either one of the cameras in order to effectuate communication between the first and second data ports.

Art Unit: 2612

3. Claims 5-8, 17-19 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. U.S. Patent 4,842,411 in view of Oie et al. U.S. Patent 6,188,431 and Murray U.S. Patent 6,388,666.

Referring to claims 5-8, the Wood and Oie references disclose all subject matter as discussed in respected claim 4, except the reference does not explicitly state the data port connector has a fixed length or adjustable length and the predetermined distance is varied by selecting the fixed length of the data port connector; and the predetermined distance in a range from about 18.0 mm to about 80.00 mm.

The Murray reference discloses in Figure 2A, the stereo image capture system comprising left camera (122), the data port connector (dummy node 116) and the right camera 124. The data port (116) connector has a fixed length or adjustable length and the predetermined distance is varied by the computer animator, and most instance will preferably be scaled to match the interocular distance between an average person's eyes. The human average of 65 mm is in a range from about 18.0 mm to about 80.00 mm is typically used for the distance (See Col. 7, lines 61-67, Col. 8, lines 1-6 and Col.15, lines 1-5). The Murray reference is evidence that one of ordinary skill in the art at the time to see more advantages for keeping the distance of the two cameras to match the interocular distance in order to generate orthostereoscopic animation sequences. For that reason, it would have been obvious to the data port connector has a fixed length or adjustable length and the predetermined distance is varied by selecting the fixed length of the data port connector; and the predetermined distance in a range from about 18.0 mm to about 80.00 mm disclosed by Wood.

Referring to claim 17, the Wood, Oie and Murray references disclose all subject matter as discussed in respected claims 1 and 5-8, and the Wood reference discloses in Figure 1, the stereo image capture system further comprising: a first view finder mounted on the first digital camera; and a second view finder mounted on the second digital camera, (e.g., CCD array 4 and 7 are integrated into a rigid structure suspended over the part inspection, and they site planes which contain the entrance nodes of the two camera lenses) the first and second view finders are spaced (B) apart by an interpupillary (interocular) separation (See Murray reference disclose all subject matter as discussed with respected to same comment as with claims 5-8) when the cameras are linked, and wherein the first and second view finders are adapted to form a visual image that is representative of the stereo image captured by the first (4) and second (7) digital cameras.

Referring to claim 18, the Wood, Oie and Murray references disclose all subject matter as discussed in respected claim 17, and the Oie reference discloses wherein the first and second viewfinders are view finder 61 (See Col. 4, lines 48-49) or a liquid crystal display (LCD 6). It also would have been obvious that one of ordinary skill in the art at the time to see more advantages for the camera view finders are selected from an optical view finder or a through-the-lens optical view finder or micro-display viewfinder so that providing user can quickly view the interested subject image and consume electric power less than liquid crystal display (LCD 6).

Referring to claim 19, the Wood, Oie and Murray references disclose all subject matter as discussed in respected claim 17, and the Oie reference discloses wherein the first and second



Art Unit: 2612

view finders (61) are movably (rotating freely by rotary shaft 65) mounted to the first (1a) and second (1b) digital cameras (See Col. 4, lines 49-55).

Referring to claim 24-25, the Wood, Oie and Murray references disclose all subject matter as discussed in respected claims 1 and 5-8, and the Oie reference discloses wherein a first display (LCD 6) positioned on the first digital camera (1a) and operative to display information including the first image; and a second display (LCD 6) positioned on the second digital camera (1b) and operative to display information including the second image as shown in Figure 5.

4. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al. U.S. Patent 4,842,411 in view of Oie et al. U.S. Patent 6,188,431 and Endsley et al. U.S. Patent 6,005,613.

Referring to claims 15-16, the Wood and Oie references disclose all subject matter as discussed in respected claim 13, except the reference does not explicitly state the stereo image capture system adapted to receive extrinsic data comprises illumination data transmitted from a source external to either one of the first and second digital cameras.

The Endsley reference discloses in Figures 1 and 3B, a source external (host computer 12) can transmits extrinsic data (camera configuration parameters) for adjusting the camera illumination (brightness or contrast), exposure and color hue setting a shown in Figure 3B (See col. 5, lines 3-11 and Col. 7, lines 30-42). The Endsley reference is evidence that one of ordinary skill in the art at the time to see more advantages for a digital camera capable of interfacing with external source such as a computer that so that user can have more flexible option to configure the digital camera for the different purposes in the different

Art Unit: 2612

configurations. For that reason, it would have been obvious to the stereo image capture system has either one or both of the first and second data ports is adapted to receive extrinsic data comprises illumination data transmitted from a source external to either one of the first and second digital cameras disclosed by Wood.

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Lin Ye** whose telephone number is **(703) 305-3250**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R Garber can be reached on (703) 305-4929.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, DC. 20231

Or faxed to:


(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive,  
Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Art Unit: 2612

Lin Ye  
March 5, 2004

  
WENDY R. GARBER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600